

School Year 2013-2014 Immunization Survey Summary

Montana Immunization Program

Introduction

The administration of an annual school immunization survey is mandated by Administrative Rule Montana (A.R.M. 37.114.720) and requires each public and private school's governing authority or designee to submit the immunization status of all students in the school. The reports are due by December 1 of the current school year.

The survey assesses immunization coverage for vaccines required for school entry by ARM 37.114.705: , Tetanus, Diphtheria and Pertussis (DTaP/DTP/Tdap/DT/Td), Polio (IPV), and Measles, Mumps, Rubella (MMR). Students must be vaccinated with the following antigens: 4 doses of DTaP/DTP/DT/Td; 3 doses of IPV; 2 doses of MMR.

The survey also collects information on the percentage of students without immunization records and the percentage of students reporting medical or religious exemptions from vaccination. The survey collects cross-sectional data at a single point in time. Changes in vaccination coverage after initial submission of the survey are not captured. Vaccinations completed after the day of assessment are not included in the survey. Survey respondents are typically school nurses or other school administrators who have access to student immunization records.

School vaccination requirements are intended to protect the health of not only the student receiving the immunization, but also the health of students who, due to medical reasons are unable to be immunized. In addition to the potential health risk to an unvaccinated child being exposed to a disease, that child may be excluded from child care, school, sporting events, or other organized activities during disease outbreak or a result of illness.

For Montana students enrolled in kindergarten–12th grade, medical or religious exemptions to the immunization requirements may be submitted in lieu of the required dates of immunization per Montana Code Annotated (MCA) 20-5-405. A medical exemption may be granted if a child has an allergy to a component of a vaccine or a medical condition that is a contraindication to receiving the required vaccine. The medical exemption form HES 105 can only be signed by a Doctor of Medicine (MD) or a Doctor of Osteopathy (DO). Physicians designate an expiration date for the exemption. Religious exemptions require a parent, guardian, or an emancipated minor to complete and sign form HES103 in the presence of a notary, stating a religious objection to a single or multiple vaccines, allowing their child to be exempted from vaccine requirements. Religious exemptions must be completed and signed in the presence of a notary each academic year.

The majority of required vaccines include multiple doses. For students who have not completed all required doses, Rule 37.114.710 allows conditional school enrollment if they have received at least one dose of each of the required vaccines before enrollment and continue to receive the remaining vaccines on a defined schedule. Therefore, school staff needs to track the progress of children with conditional enrollments toward the completion of the required immunizations.

The purpose of this report is to monitor and share school immunization coverage levels in all jurisdictions to ensure that Montana residents remain protected from vaccine-preventable diseases, either through direct immunization or community immunity.

Methods

The annual school immunization surveys are distributed in early September and are due by December 1 of that year. Surveys are mailed directly to all public and private schools registered with the Montana Office of Public Instruction. Each school has the option to directly enter their results into an online database or fax a hard copy for the Assessment Coordinator to enter the results. Results are compiled and reviewed for completeness. Individual respondents are contacted regarding inconsistent data or information requiring clarification.

Results

Of the 824 public schools in Montana, 439 (53%) are elementary schools, 214 (26%) middle schools (7th–8th grades) and 171 (21%) high schools (Facts about Montana Education 2013). Nearly 780 (95%) schools submitted an immunization survey. During the 2013–2014 academic year, data were available for 78,944 students enrolled in kindergarten–6th grade, 21,686 7th–8th grades, and 40,652 9th–12th grades. Students were considered up-to-date if they were known to have received all required vaccines. For all students, immunization coverage for individual antigens ranged from 93% (1+ dose Tdap/Td among students enrolled in 9th–12th grades) to 99% (3+ doses IPV among students enrolled in 9th–12th grades) (Table 1).

During the 2011–2012 and 2013–2014 academic years, immunization coverage for required vaccines did not differ substantially except for the 1+ dose Tdap/Td; coverage increased from 72% in 2011–2012 to 93% in 2013–2014 (Table 2).

The rate of medical and religious exemptions was low and did not vary substantially by grade level (Table 3). However, the rate of religious exemptions was higher for health planning region 5 compared with other regions (Figure 1).

Table 1. Immunization coverage among students enrolled in kindergarten–12th grade by vaccine and grade level, Montana, 2013–2014 academic year

	Grade level		
	Kindergarten–6 th	7 th –8 th	9 th –12 th
No. students	78,944	21,686	40,652
4+ DTaP/DTP/Tdap/DT/Td	78,487 (98)	21,455(98)	39,888 (98)
2+ MMR	78,866(96)	21,456(98)	40,131 (99)
3+ IPV	77,670 (97)	21,483(98)	40,182 (99)
1+ Tdap/Td (7th–12th grades only)	N/A	20,683 (98)	37,777(93)

Abbreviations: DTaP =diphtheria, tetanus toxoid, and acellular pertussis vaccine; IPV = inactivated poliovirus vaccine; MMR = measles, mumps, and rubella vaccine; Td = tetanus and diphtheria vaccine; Tdap = tetanus toxoid, diphtheria, and acellular pertussis vaccine.

Table 2. Immunization coverage among students enrolled in kindergarten–12th grade by vaccine and academic year, Montana

Academic year	2+ MMR	3+ IPV	4+DTaP	Tdap/Td Booster 7-12 th grade
2011–2012	97.5	96.0	97.2	72.0
2012–2013	97.2	97.5	97.3	92.5
2013–2014	97.7	97.3	97.7	92.8

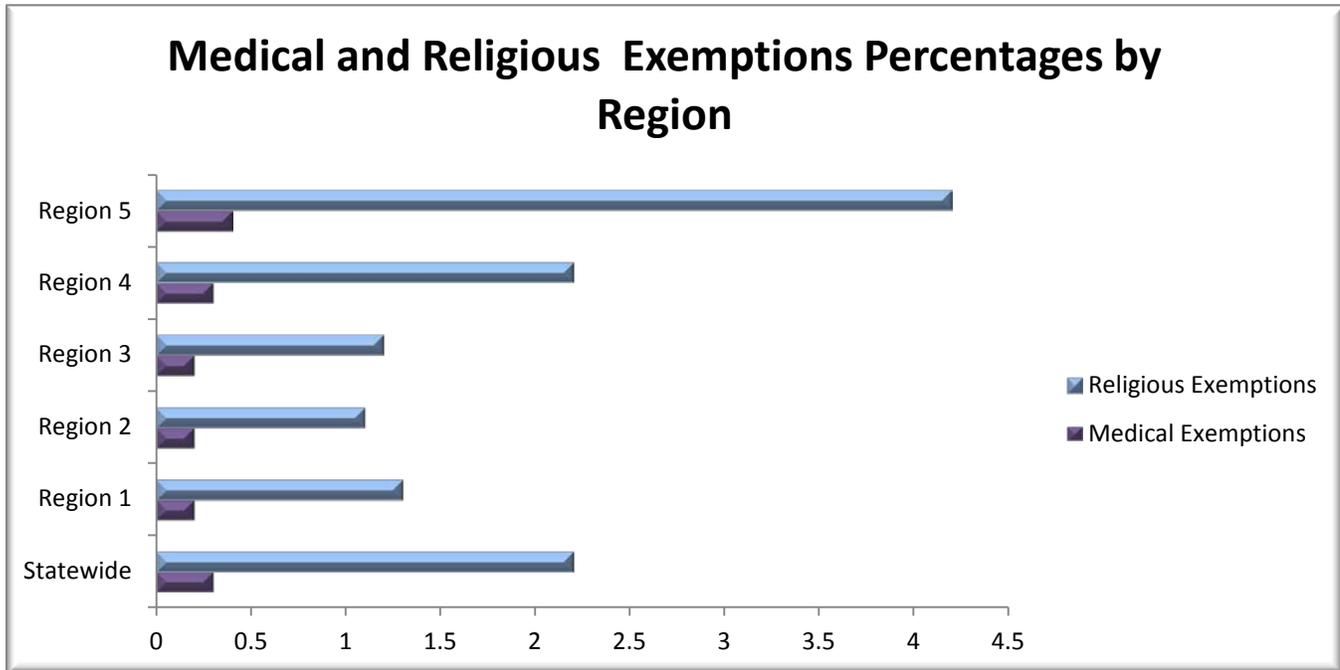
[Abbreviations: DTaP =diphtheria, tetanus toxoid, and acellular pertussis vaccine; IPV = inactivated poliovirus vaccine; MMR = measles, mumps, and rubella vaccine; Td = tetanus and diphtheria vaccine; Tdap = tetanus toxoid, diphtheria, and acellular pertussis vaccine.

Table 3. Vaccination coverage characteristics by grade and antigen, Montana, 2013.

Grade	No. students	Conditional enrollments (%)	Medical exemptions (%)	Religious exemptions (%)	Antigen			
					2+ doses MMR (%)	3+ doses IPV (%)	4+ doses DTaP (%)	1+ dose Td/Tdap (%)
K	12255	276 (2)	35 (<1)	392 (3)	11498 (94)	11695 (95)	11632 (95)	—
1	11836	131 (1)	43 (<1)	340 (3)	11320 (96)	11469 (97)	11432 (97)	—
2	11928	111 (<1)	26 (<1)	315 (3)	11299 (95)	11431 (96)	11413 (96)	—
3	11238	87 (<1)	40 (<1)	302 (3)	10800 (96)	10885 (97)	10855 (97)	—
4	11012	221 (2)	26 (<1)	266 (2)	10585 (96)	10688 (97)	10682 (97)	—
5	10981	311 (3)	33 (<1)	276 (3)	10555 (96)	10647 (97)	10628 (97)	—
6	11127	197 (2)	26 (<1)	208 (2)	10829 (97)	10855 (98)	10844 (97)	—
7	11083	134 (1)	34 (<1)	242 (2)	10867 (98)	10883 (98)	10862 (98)	10340 (93)
8	10783	147 (1)	38 (<1)	212 (2)	10589 (98)	10600 (98)	10583 (98)	10343 (96)
9	11044	85 (<1)	28 (<1)	201 (2)	10846 (98)	10851 (98)	10810 (98)	10192 (92)
10	10469	95 (<1)	26 (<1)	225 (2)	10241 (98)	10258 (98)	10231 (98)	9696 (93)
11	9928	86 (<1)	23 (<1)	177 (2)	9735 (98)	9755 (98)	9704 (98)	9142 (92)
12	9469	68 (<1)	18 (<1)	157 (2)	9309 (98)	9318 (98)	9243 (98)	8747 (92)
Total	143153	1949 (1)	396 (<1)	3313 (2)	138473(97)	139335 (97)	139920 (98)	58460* (93)

Abbreviations: DTaP =diphtheria, tetanus toxoid, and acellular pertussis vaccine; IPV = inactivated poliovirus vaccine; MMR = measles, mumps, and rubella vaccine; Td = tetanus and diphtheria vaccine; Tdap = tetanus toxoid, diphtheria, and acellular pertussis vaccine. *58460 out of 62776 (7th-12th graders) or 93% had received a booster dose of Tdap/Td

Figure 1. Percentage of students enrolled in kindergarten–12th grade with medical or religious exemptions to required vaccines, Montana, 2013–2014 academic year



Region 1 Counties: Carter, Custer, Daniels, Dawson, Fallon, Garfield, McCone, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Valley and Wibaux

Region 2 Counties: Blaine, Cascade, Chouteau, Glacier, Hill, Liberty, Phillips, Pondera, Teton, Toole

Region 3 Counties: Big Horn, Carbon, Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum, Stillwater, Sweet Grass, Yellowstone, Treasure, Wheatland, Silver Bow

Region 4 Counties: Beaverhead, Broadwater, Deer Lodge, Gallatin, Granite, Jefferson, Lewis and Clark, Madison, Meagher, Park, Powell, Silver Bow

Region 5 Counties: Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli, Sanders

Limitations

This survey was subject to at least several limitations. First, data were collected from reports submitted by school nurses, administrators, and teachers. The accuracy and completeness of these data cannot be verified because reviews of individual immunization records for students were not completed. Second, immunization records were not available for all students, which could affect overall coverage or exemption rates. Third, the survey collects cross-sectional data at a single point in time. Changes in immunization coverage because of changes in student enrollment or vaccines administered after the initial submission are not detected by the survey. Finally, this analysis only assessed immunization coverage for vaccines required for school entry. Immunization coverage for other vaccines recommended by the Advisory Committee on Immunization Practices (e.g. Hepatitis B, Varicella, Hepatitis A, influenza) may be higher or lower than the national average.

Conclusion

Measured immunization coverage levels statewide are above estimated herd immunity levels for diphtheria, measles, mumps, pertussis, polio, rubella, and tetanus. A small percentage of children have medical or religious exemptions to required vaccines. Fewer than 2% of students had medical exemptions and about 2% of students had religious exemptions. Schools with immunization coverage below 85% for at least one required vaccine are at risk for disease outbreaks.

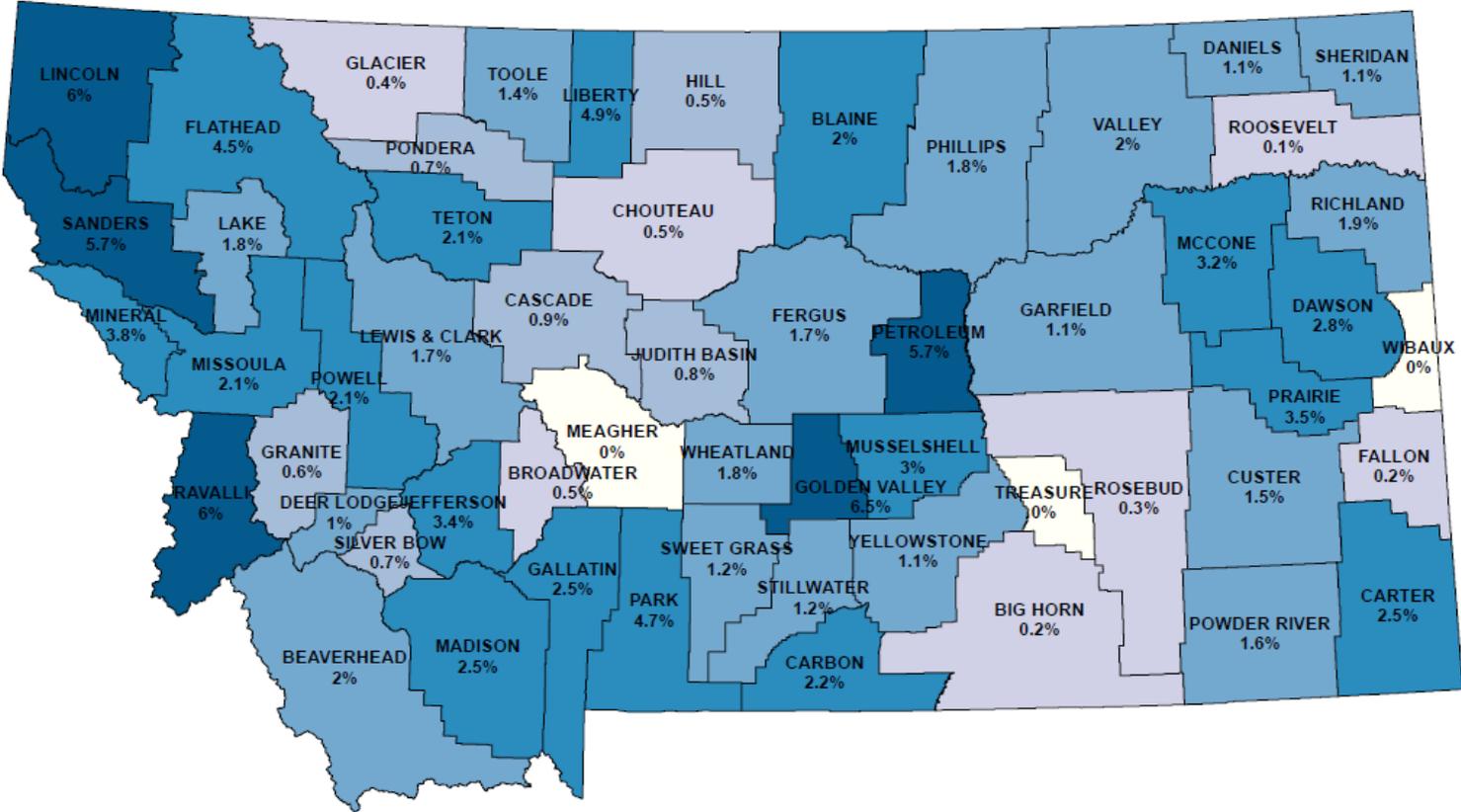
Recommendations

Based on the results from the 2013 School Survey and advice from the 2013 Legislative Performance Audit, we offer the following recommendations for improving school immunization rates in Montana:

- The Department of Public Health and Human Services will propose rule changes and seek legislation to align Montana's school immunizations with the Advisory Committee on Immunization Practices recommendations.
- The Immunization Program will update and develop a more comprehensive training program to notify schools about the requirements and their responsibilities as stated in ARM 37.114.721.
- The local health department will track students excluded for failing to meet the requirements of a conditional enrollment and notify the Immunization Program when the child has met the immunization requirements.
- In collaboration between the Immunization Program and local health departments develop a documented process to validate the accuracy of data submitted by a school with no school nurse or administrative personnel trained in interpreting school immunizations.

Figure 2. Percentage of students enrolled in kindergarten–12th grade with religious exemptions to required vaccines, Montana, 2013–2014 academic year

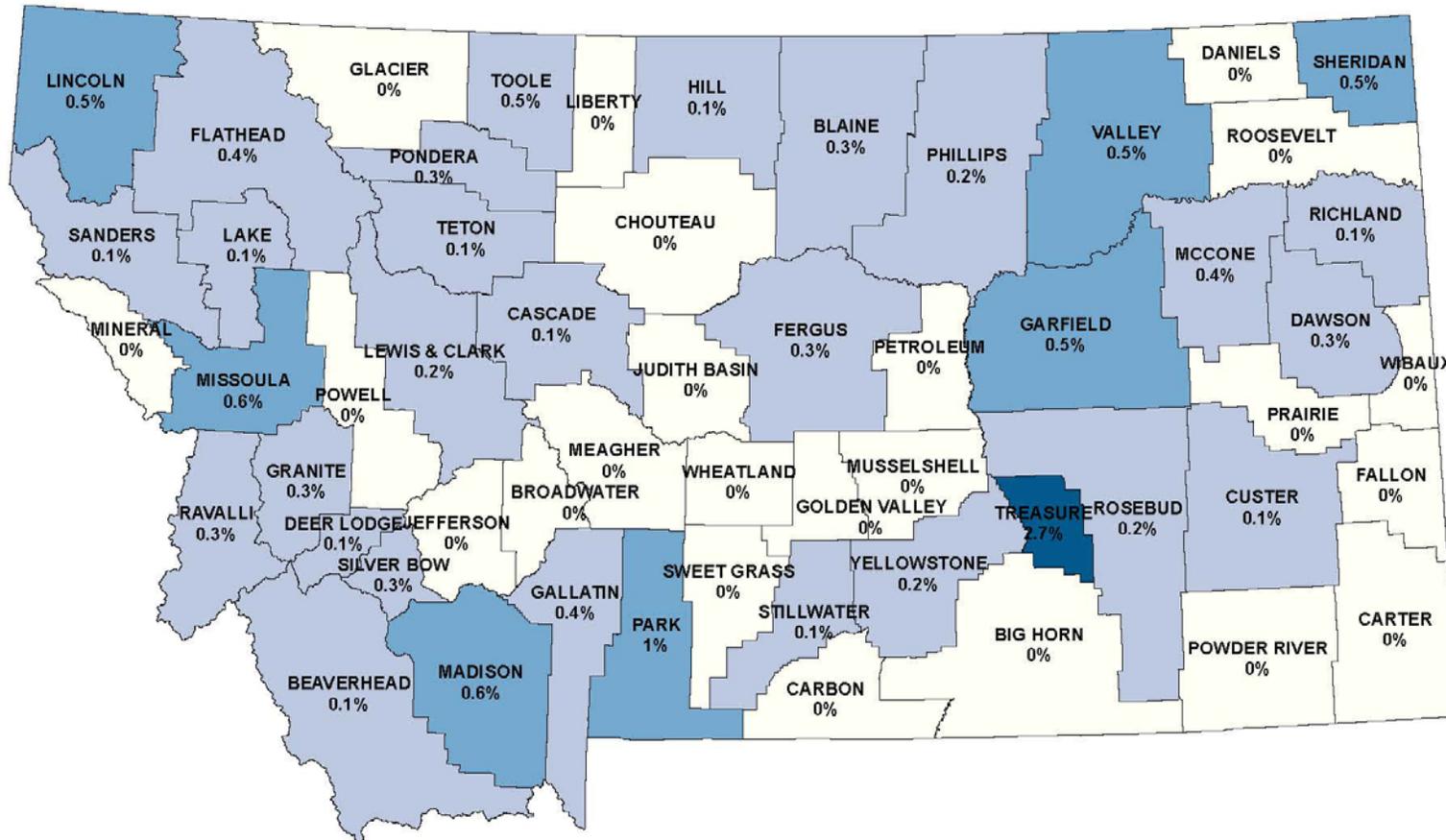
**Percent of Enrolled Pupils with Religious Vaccine Exemptions
Montana, 2013-14 School Year**



Percent with religious exemptions



Percent of Enrolled Pupils with Medical Vaccine Exemptions Montana, 2013-14 School Year



Percent with medical exemptions

